

REMARKS

Claims 1-28 are the claims currently pending in the Application.

Claims 26-28 are amended to correct their dependency, such that claims 26-28 are consistent and clear. No estoppel is created.

Formal Matters

Applicant thanks the Examiner for reviewing and considering the references cited in the Information Disclosure Statement filed March 30, 2001.

Rejection of Claims 26-28 under 35 U.S.C. § 112, Second Paragraph

Claims 26-28 under 35 U.S.C. § 112, second paragraph, as being indefinite, on the ground that claims 26-28 are directed to “the computer program product of claim 1,” whereas claim 1 is directed to a method.

Claims 26-28 are amended such that they now depend from independent claim 23 instead of independent claim 1. Therefore, this rejection should now be withdrawn.

Rejection of Claims 1, 5, 12, 16 and 23 under 35 U.S.C. § 102(b)

Claims 1, 5, 12, 16 and 23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Herman et al., U.S. Patent No. 6,075,905. This rejection is traversed.

For at least the following reasons, the prior art cited, including Herman, does not disclose or suggest the features recited by Applicant's claimed invention. For

example, independent claims 1, 12 and 23 require reducing the resolution of the first and second images.

Herman discloses a method and apparatus for a mosaic image construction wherein source images are selected, aligned, enhanced and merged to form an image mosaic. (Herman, Abstract.) Herman discloses a type of image processing different from cross-spectral image processing. Herman is directed to a conventional feature-based approach to registration, that is, using standard geometric transforms to compute the mapping between the pairs of images. Therefore, Herman belongs to the prior art recognized for example on Pages 1-2 of Applicant's disclosure, because Herman requires the finding of a subset of corresponding features common to both images, and matching the features to each other.

Herman is primarily concerned with generating an extended image mosaic from a stream of data from a video or digital camera (Herman, column 1, lines 11-15), and with an image alignment step to compensate with such factors as camera motion and lens distortion. More particularly, Herman discloses that: (1) the selected source images are aligned with one another so that each image is in registration with corresponding portions of neighboring images, such that the alignment entails finding a geometrical transformation, or a "warping" which, after being applied to all of the selected images, brings them into a common coordinate system, (Herman, column 4, lines 44-49); and (2) the geometric transform is typically defined in terms of a set of parameters, which may be shift, rotate, dilate, projective, high order polynomial, or general flow, such as piece-wise polynomial with a different set of parameters at each sample point (Herman, column 4, lines 49-53).

Herman does not disclose or suggest reducing the resolution of the first and second images from the thresholding operation. The Examiner cites Herman, column 21, lines 43-45, and alleges that Herman discloses this feature. The cited passage discloses that an input image is subjected to “a distance transform to spread out the image structure” prior to pyramid generation. (Herman, column 21, lines 43-45.) However, the Examiner offers no evidence that Herman’s “distance transform” corresponds in any way to a resolution control technique or resolution processing. In fact, Herman describes the distance transform operation as being performed to “spread out the image structure.” Thus, the distance transform appears to be completely unrelated to resolution control, let alone to a reduction in the resolution of the first and second images. Therefore, Herman does not disclose or suggest the recitations of independent claims 1, 12 and 23.

Further in this vein, the Examiner seems to be counting Herman’s distance transform step twice, first using it as part of the rejection of claim 1, as allegedly corresponding to reducing the resolution of the first and second images, and then again with respect to claim 2, as allegedly corresponding to a method that somehow is similar in effect to blurring an image. In fact, Herman discloses a single distance transform step, not two steps performed at different points in the process. Moreover, as discussed the Examiner has provided no evidence in support of his contention that Herman’s distance transform in anyway discloses or suggests reducing the resolution of the first and second images.

Claim 5 depends from independent claim 1, and claim 16 depends from independent claim 12. Therefore, claims 5 and 16 are patentably distinguishable over the

prior art for at least the reasons that independent claims 1 and 12 are patentably distinguishable over the prior art.

Rejection of Claims 2, 3, 13, 14 and 24 under 35 U.S.C. § 103

Claims 2, 3, 13, 14 and 24 are rejected under 35 U.S.C. § 103 as being obvious from Herman and Jaffrey et al., U.S. Patent No. 5,325,200. This rejection is traversed.

The Examiner acknowledges that Herman does not disclose or suggest blurring the first and second images. However, the Examiner cites Jaffrey, column 3, lines 29-35, and alleges that Jaffrey discloses this feature. Next, the Examiner alleges that it would have been obvious for a person skilled in the art to use Jaffrey's mean filter or blur instead of Herman's distance transform method, because the effect of the distance transform is the same as blurring the images and therefore it would accomplish widening the edges in the image in order to perform more effective registration of images.

Jaffrey discloses an apparatus and method for transforming a digitized signal of an image into a reflective surface to produce a variety of desired visual effects, such as brush stroke effects or the appearance of reflective chrome surface. (Jaffrey, Abstract.) To impart the desired image effects on input images, Jaffrey discloses that different transformations are possible. (Jaffrey, column 1, line 66; column 2, line 6; and column 2, line 63-66.) Jaffrey discloses a mean filter or blur to replace the intensity of pixels by an intensity derived by averaging or taking the arithmetic mean value of the intensity of the pixel and its neighbors. (Jaffrey, column 3, lines 26-41.)

Jaffrey does not remedy the deficiencies of Herman as they relate to Applicant's invention as claimed in independent claims 1, 12 and 23. In particular, Jaffrey does not disclose or suggest reducing the resolution of the first and second images.

Further, Applicant respectfully submits that the Examiner has offered no teaching in the prior art that would have motivated for Applicant's claimed invention based on Herman and Jaffrey. First, Jaffrey is concerned primarily with transforming a digitized signal of an image to impart particular image effects, such as giving the appearance of reflective chrome surface. (Jaffrey, column 1, line 66 - column 2, line 6.) Thus, Jaffrey's mean filter or blurring operation is not shown by the Examiner to be an attempt to accomplish the aims of Herman.

Moreover, the Examiner has offered no evidence in support of his contention that even if the mean filter or blurring of Jaffrey had an effect similar to Herman's distance transformation, a person of ordinary skill in the art would have been motivated to replace one with the other, or that somehow the two are interchangeable for any given application. Nor has the Examiner provided evidence that Herman's distance transformation teaching is for widening edges or that such distance transformation is similar in effect to Jaffrey's mean filter or blurring step. Therefore, it is respectfully submitted that Applicant's invention as claimed in claim 2, 13 and 24 would not have been obvious to a person of ordinary skill in the art from Herman and Jaffrey.

Claims 3 and 14 depend indirectly from independent claims 1 and 12, respectively, and thus incorporate novel and nonobvious features thereof. Thus, claims 3

and 14 are patentably distinguishable over the prior art for at least the reasons that claim 1 and 12 are patentably distinguishable over the prior art.

Rejection of Claims 4, 6, 7, 15, 17, 18 and 25 are rejected under 35 U.S.C. §103

Claims 4, 6, 7, 15, 17, 18 and 25 are rejected under 35 U.S.C. §103, as being obvious from Herman. This rejection is traversed.

Claims 4, 6 and 7 depend from independent claim 1, claims 15, 17 and 18 depend from independent claim 12, and claim 25 depends from independent claim 23. Therefore, claims 4, 6, 7, 15, 17, 18 and 25 incorporate novel and nonobvious features of their respective base claims, and are patentably distinguishable over the prior art for at least the reasons that independent claims 1, 12 and 23, respectively, are patentably distinguishable over the prior art.

Rejection of Claims 8, 19 and 26 under 35 U.S.C. § 103

Claims 8, 19 and 26 are rejected under 35 U.S.C. § 103 as being obvious from Herman and Yakhini et al., U.S. Patent No. 6,591,196. This rejection is traversed.

Claims 8, 19 and 26 depend from independent claims 1, 12 and 23, respectively, and thus claims 8, 19 and 26 incorporate novel and nonobvious features of their respective base claims.

Yakhini does not remedy the deficiencies of Herman as they relate to Applicant's invention as claimed in independent claims 1, 12 and 23. In particular, Yakhini does not disclose or suggest reducing the resolution of the first and second images. Therefore, claims 8, 19 and 26 are patentably distinguishable over the prior art

for at least the reasons that independent claims 1, 12 and 23, respectively, are patentably distinguishable over the prior art.

Rejection of Claims 9, 20 and 27 under 35 U.S.C. § 103

Claims 9, 20 and 27 are rejected under 35 U.S.C. § 103 as being obvious from Herman and Silver et al., U.S. Patent No. 4,972,359. This rejection is traversed.

Claims 9, 20 and 27 depend from independent claims 1, 12 and 23, respectively, and thus claims 9, 20 and 27 incorporate novel and nonobvious features of their respective base claims.

Silver does not remedy the deficiencies of Herman as they relate to Applicant's invention as claimed in independent claims 1, 12 and 23. In particular, Silver does not disclose or suggest reducing the resolution of the first and second images. Therefore, claims 9, 20 and 27 are patentably distinguishable over the prior art for at least the reasons that independent claims 1, 12 and 23, respectively, are patentably distinguishable over the prior art.

Rejection of Claims 10, 11, 21, 22 and 28 under 35 U.S.C. § 103

Claims 10, 11, 21, 22 and 28 are rejected under 35 U.S.C. § 103 as being obvious from Herman and Boyer, U.S. Patent No. 5,295,200. This rejection is traversed.


Claims 10 and 11 depend from independent claim 1, claims 21 and 22 depend from independent claim 12, and claim 28 depends from independent claim 23, and thus claims 10, 11, 21, 22 and 28 incorporate novel and nonobvious features of their respective base claims. Boyer does not remedy the deficiencies of Herman as they relate

to Applicant's invention as claimed in independent claims 1, 12 and 23. Therefore, claims 10, 11, 21, 22 and 28 are patentably distinguishable over the prior art for at least the reasons that independent claims 1, 12 and 23, respectively, are patentably distinguishable over the prior art.

Submitted herewith is a check in the amount of \$110.00 for a one month extension of time.

For at least the reasons set forth in the foregoing discussion, Applicant believes that the Application is now allowable and respectfully requests that the Examiner reconsider the rejections and allow the Application. Should the Examiner have any questions regarding this Amendment or the Application generally, the Examiner is invited to telephone the undersigned attorney.

Respectfully submitted,


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